

## 50um InGaAs M=30 Avalanche Photodiode

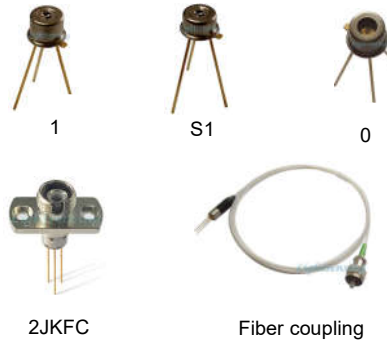
V4.1IAPD-002 20-10-01

**Model: LSIAPD-50**
**Features:**

- High reliability, low dark current
- 800-1700nm wavelength range
- High Gain up to M=30
- High bandwidth up to 2.5GHz
- Hermetic TO46 Can or with receptacle or fiber coupling

**Applications:**

- Ultra Weak pulse optical detecting
- Optical fiber sensor, DTS, DVS, DAS, OTDR
- Laser radar, laser range finding
- high resolution Optical Coherence Tomography
- Science analysis and experiment


**The absolute values**

|                             |                                   |                       |                                |                     |                                |
|-----------------------------|-----------------------------------|-----------------------|--------------------------------|---------------------|--------------------------------|
| Operating voltage           | $0.99 \times V_{BR}$              | Operating temperature | $-40 \sim +85^{\circ}\text{C}$ | storage temperature | $-40 \sim +85^{\circ}\text{C}$ |
| Soldering temperature(time) | $260^{\circ}\text{C}(10\text{s})$ |                       |                                |                     |                                |

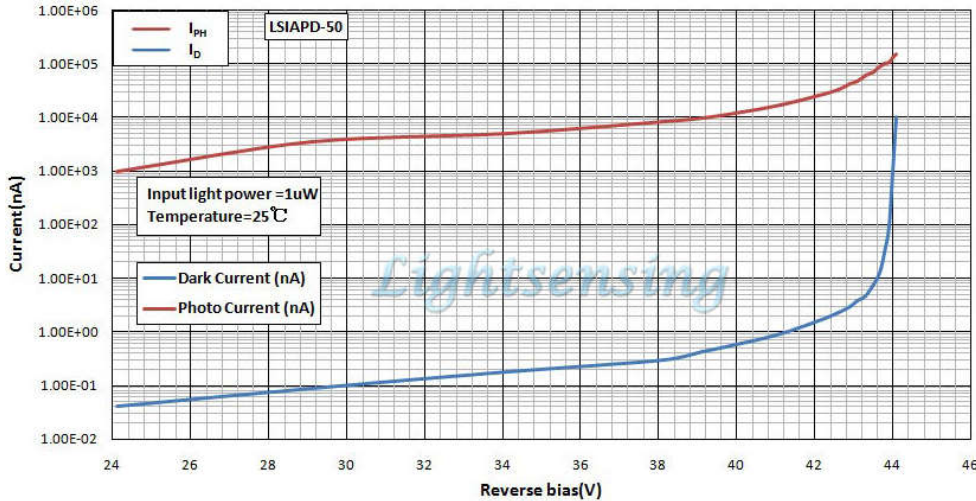
**The opto-electronic characteristics (@ $T_c=22 \pm 3^{\circ}\text{C}$ )**

| Parameters                                | Sym.   | Test conditions   | Min      | Typ  | Max  | Unit                        |
|---|--|---|----------|------|------|-----------------------------|
| Response Spectrum                         | $\lambda$  | —   | 800~1700 |      |      | nm                          |
| Active diameter                           | $\varphi$  | —   | 50       |      |      | $\mu\text{m}$               |
| Responsivity for fiber coupling           | $R_e$  | $\lambda=1.55\mu\text{m}, 1\mu\text{W}, M=1$                |          | 0.9  |      | A/W                         |
| Responsivity for receptacle and SM fiber  | $R_e$  | $\lambda=1.55\mu\text{m}, 1\mu\text{W}, M=1$                |          | 0.7  |      | A/W                         |
| Multiplication gain                       | M  | $\lambda=1.55\mu\text{m}, 1\mu\text{W}, V_{BR}=4\text{V}$   |          | 10   |      |                             |
|   |  | $\lambda=1.55\mu\text{m}, 1\mu\text{W}, V_{BR}=2\text{V}$   |          | 20   |      |                             |
|   |  | $\lambda=1.55\mu\text{m}, 1\mu\text{W}, V_{BR}=1.2\text{V}$ |          | 30   |      |                             |
| -3dB bandwidth                            | BW   | $M=10, R_L=50\Omega$  |          | 2.5  |      | GHz                         |
| Dark current                              | $I_d$  | $M=10$  |          | 0.8  |      | nA                          |
| Total capacitance                         | $C_{tot}$  | $M=10$  |          | 0.7  |      | pF                          |
| Reverse breakdown voltage                 | $V_{BR}$   | $I_d=10\mu\text{A}$   | 40       | 45   | 55   | V                           |
| Maximum instantaneous input power         | P  | $M=10, 1550\text{nm}, 10\text{ns}, 10\text{KHz}$            |          |      | 300  | $\mu\text{W}$               |
| Operating voltage temperature coefficient | $\delta$   | $T_c=-40 \sim +85^{\circ}\text{C}$                          |          | 0.11 | 0.15 | $\text{V}/^{\circ}\text{C}$ |
| Package                                   | Hermetic TO46 Can or with receptacle or fiber coupling |   |          |      |      |                             |

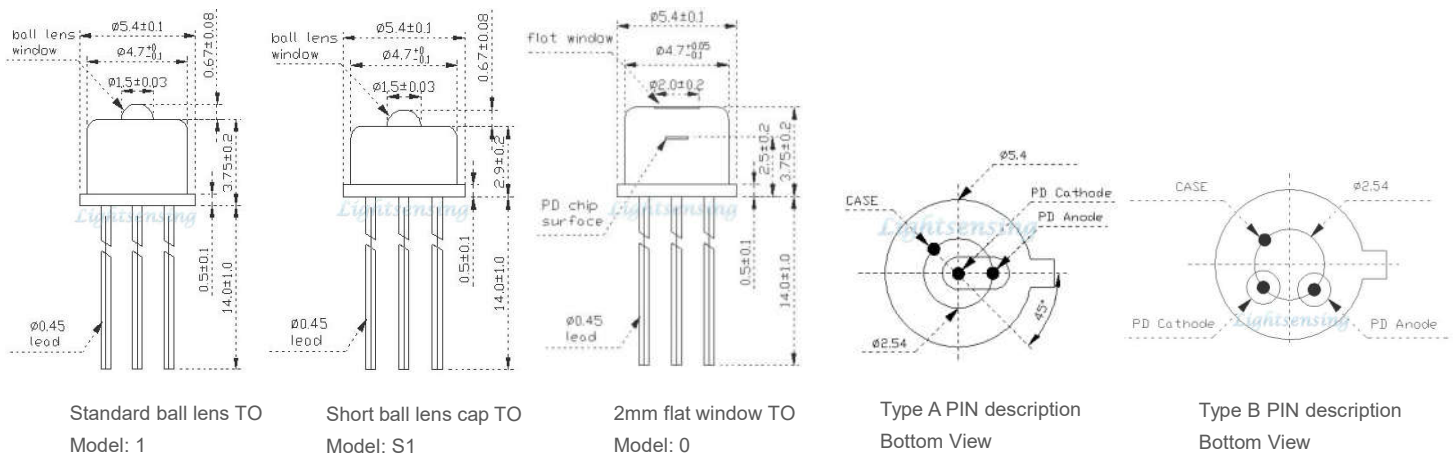
NOTICE: The above product specifications are subject to change without notice.

**The typical characteristic curve**


Dark current and photo current vs voltage



TO package and Lead



Note: For more information on dimension, please contact us.

Ordering information

LSIAPD-50-X-X-X-X

X=A Type A PIN  
X=B Type B PIN

X=1  
X=1A  
X=S1  
X=S1A  
X=0  
X=0A  
X=SMFA/P  
X=SMSA/P  
X=5MMFA/P  
X=5MML/P  
X=5MML/P-SI  
X=6MMFA/P  
X=2JKFC  
X=Other

TO46 Can with ball lens cap  
TO46 Can with ball lens cap and Antireflection Coatings(Standard products)  
TO46 Can with short ball lens cap  
TO46 Can with short ball lens cap and Antireflection Coatings  
TO46 Can with 2mm flat window cap  
TO46 Can with 2mm flat window cap and Antireflection Coatings  
TO46 Can with SM Fiber coupling with FC-APC/FC-PC connector (Standard products)  
TO46 Can with SM Fiber coupling with SC-APC/SC-PC connector  
TO46 Can with 50um MM Fiber coupling with FC-APC/FC-PC connector  
TO46 Can with 50um MM Fiber coupling with LC/PC connector  
TO46 Can with 50um Step Index MM Fiber coupling with LC/PC connector  
TO46 Can with 62.5um MM Fiber coupling with FC-APC/FC-PC connector(Standard products)  
TO46 Can with fixed receptacle with FC connector and 2 mounting holes  
By customer's request

Fiber length  
X= Default 1m  
X=0.3m,0.5m or other

Tube  
X= Default 0.9mm tight tube  
X=S 0.9mm Loose tube

The Cautions

- 1: The above product specifications are subject to change without notice.
- 2: The suitable ESD protecting measures are recommend in storage,transporting and using.
- 3: The fiber bending radius no less than 20mm for avoiding fiber damaged ,Be sure the fiber coupling facet is clean before connecting it to opto-circuit.

